ical devices and pharmacy costs. Reimbursements for patients with declining renal function were estimated at €4,933 ±368.9 for monotherapy, €4,521 ±350.8 for double therapy, €4,191 ±497.9 for triple therapy and €13,768 ±1106.2 for insulin therapy. **CONCLUSIONS:** Overall, ambulatory care costs increase with treatment escalation and declining renal function amongst T2DM patients. Insulin therapy is associated with substantial increased costs, related to pharmacy, nursing care and medical device utilization.

PDB72

THE BURDEN OF HYPOGLYCAEMIA IN SECONDARY CARE IN ENGLAND

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OBJECTIVES: Hypoglycaemia is a common adverse event associated with the management of both type 1 and type 2 diabetes. While many hypoglycaemic episodes can be self-treated, more severe episodes can require emergency treatment and hospitalisation. The objective of our study was to evaluate the burden of hypoglycaemia on secondary care costs in England. **METHODS:** Data captured in Hospital Episode Statistics (HES)* for the period between 2006 and 2009 was analysed to estimate the trends in hospital episodes. The associated costs were estimated using Hospital Resource Group (HRG) tariff prices in England for the respective years. **RESULTS:** There were a total of 11,330 inpatient spells assigned an HRG for hypoglycaemia in 2009, an increase of 17.0% from 2006 when there were 9,682 inpatient spells. In 2006 the average inpatient length of stay was 5.7 days, but by 2009 this figure had risen by 21.1% to 6.9 days. In 2006 the cost of hypoglycaemia due to hospitalisation was £13.57 million. In 2009 this figure was £16.04 million, representing an 18.2% increase in cost burden. In 2009 the average inpatient cost was £1635, up 8.7% from 2006 when the average cost was £1504. Over the four year period 2006-2009 there were a total of 41,717 inpatient spells due to hypoglycaemia at a total cost of £58.44 million. **CONCLUSIONS:** Hypoglycaemia represents a significant and increasing burden on hospital care in England. Given current cost constraints in the NHS, prescribers should seek to use medications that reduce the risk of hospitalisation due to hypoglycaemia.

PDB73

IMPACT OF EPIDEMIOLOGICAL AND ECONOMIC FACTORS ON INSULIN TOTAL SALES IN THE UK DIABETIC MARKET

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OBJECTIVES: Diabetes affects 3%-5% of total UK population and insulin is the largest drug-class category used to treat the disease. A greater understanding of the impact of different economic and epidemiological variables on total insulin sales will help the healthcare system and pharmaceutical industry be more responsive to demand and cost. **METHODS:** Generalized least squares regression with period random effects was used on a pooled yearly data set (2001 to 2010) of variables. The dependent variable was total yearly sales for insulin. The explanatory variables included - size of population; incidence and prevalence of diabetes; estimated total prescription (Rx) for insulin; and employee compensation per capita. The analysis used yearly pooled, cross-sectional data from IDF and IHS Forecasting Database at different time points to account for the variation in different variables. The total population was obtained from OECD. The prevalence and incidence rates were obtained from IDF for 2001, 2003, 2007 and 2010; average of previous year's datapoints were used for years in which no data was provided. The main independent variable was the total yearly prescription rate for insulin, calculated from data derived from intrinsic Patient Flow Model. **RESULTS:** A direct correlation was found between estimated total Rx for insulin, total population, and prevalence rates for diabetes. The results can be summarized as: For every 1% rise in total estimated Rx for Insulin and total population there is a 71% and 48% increase in insulin sales, respectively. **CONCLUSIONS:** Based on our model, total Rx plays a major role in determining the total sales for insulin. From a policy perspective, it will support UK government's diabetes related initiatives focusing on effective cost management.

PDB74

TITLE: IMPLEMENTATION OF DIABETES PROGRAMME BUDGET MARGINAL ANALYSIS (PBMA) EXERCISE IN AN ENGLISH PRIMARY CARE TRUST (PCT)

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OBJECTIVES: To undertake resource re-allocation for improvements in service and patient outcomes within a diabetes programme using PBMA. **METHODS:** UK National Health Service organisations have to manage severe budget pressures. If health outcomes for patients are to be maintained and improved, resources must be (re)allocated efficiently and some disinvestment is inevitable. PBMA is an ideal framework for these tasks as it is based on opportunity costs and maximisation of benefits. The pilot PBMA exercise reported was undertaken in an English PCT in 2010. Data on the inputs and outputs of diabetes care received by patients was collected and evaluated by a multidisciplinary group of commissioners, healthcare staff and patient representatives. Through comparison of the data with other PCTs, and a review of the literature concerning the effectiveness and cost-effectiveness of current and proposed interventions within the programme, the multidisciplinary group identified opportunities for resource reallocation. **RESULTS:** In comparisons, the PCT had near average spending but with poor HbA1c outcomes, use of glucose blood testing reagents was high - the third most costly prescribed item and of overall drug spending. Reducing unnecessary spending on these in type II diabetes patients freed resource for specialist nurses to coach patients in optimal diabetes control. **CONCLUSIONS:** Literature reporting successful implementation of PBMA is uncommon and factors associated with success are setting, individuals leading the initiative and buy-in of participants to the process. In this exercise using detailed financial and outcomes data, implementing PBMA and gaining buy-in of stakeholders resulted in a successful disinvestment decision, resource reallocation and re-investment in diabetes services. The next important step is to use PBMA to make a disinvestment decision alone and improve the process; reducing the burden of this complex, data-intensive decision-making framework, maintaining transparency, equity and ethics. This may increase the adoption and successful execution of PBMA.

PDB75

ANALYSIS OF THE MEDICINES PRICING PROCEDURE IN THE REPUBLIC OF MACEDONIA

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OBJECTIVES: To analyze the development in the medicines pricing regulation in Republic of Macedonia during 2005 to 2010 and its impact on medicines affordability. **METHODS:** Regulatory analysis of the changes in the medicines prices regulation for the period 2005 to 2010 was applied. The affordability of the medicines to the population was explored before the after the new regulation introduction. Affordability was evaluated through the comparison of the cost of therapy of the most frequent diseases with the inhabitants wages. For comparison purposes, the average monthly wages in January 2005 (7.999,00 MKD) and in January 2010 (14.914,00 MKD) were used as announced by the UJP (Public Revenue Office of Macedonia). The statistical test used was Wilcoxon Matched Pais Test. **RESULTS:** The unified medicines prices were established in 2007 based on ex-factory price, wholesale mark-ups and pharmacy mark-ups. The Health Insurance Fund carried out the supply of medicines on the Positive list by international tenders until 2005. The reference pricing was introduced in 2007 and it took into consideration the Purchasing Parity Power. The statistical analysis of the cost of treatment for selected health conditions compared with the average monthly wages, expressed as working hours shows that less working hours are needed to purchase medicines for all clinical conditions in 2010 compared to 2005. There is statistically significant difference in the working hours needed to purchase medicines between 2010 and 2005 (Wilcoxon Matched Pairs Test: Z = 2240, p = 0, 0250). The better financial affordability of medicines in 2010 is a result of partly lower medicines prices, but predominantly a result of higher monthly wages. **CONCLUSIONS:** The analysis reveals the positive impact of medicines price control and reference pricing on medicines affordability. The number of working hours needed to purchase a month of treatment decreased.

PDB76

KNOWLEDGE, MEDICATION ADHERENCE AND GLYCEMIC CONTROL AMONG PATIENTS WITH TYPE 2 DIABETES MELLITUS

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OBJECTIVES: To evaluate the association of knowledge and medication adherence with glycemic control in patients with diabetes mellitus type 2. **METHODS:** The research was shaped as a cross-sectional, investigational study. Convenient sampling was done to identify a cohort of 540 diabetic patients attending diabetes clinic of Hospital Pulau Pinang, Penang, Malaysia. A previously validated knowledge test and medication adherence scale was used for data collection. Patients' medical records were reviewed for haemoglobin A1C (HbA1C) levels and other disease-related information. **RESULTS:** Five hundred five patients were included in the final analysis, with a mean age of 58.15 years (SD=9.16) with 50.7% males having mean HbA1C of 7.94 (SD=1.61). Knowledge scores ranged from 0 to 14, with mean scores of 7.44 (SD=3.08). Medication adherence scores ranged from 0 to 8 with mean scores of 6.11 (SD=1.66). HbA1C was found to be significantly lower in patients with higher level knowledge and higher level of medication adherence ($p<0.05$). Significant correlations were found between the three variables HbA1C, Knowledge and adherence ($p<0.05$). Combined therapy, higher diabetes knowledge and higher medication adherence were statistically predictors of good glycemic control. **CONCLUSIONS:** There is a high prevalence of poor glycemic control among patients in this study. This study revealed that knowledge and adherence are among the modifiable factors that are associated with better glycemic control.

PDB77

IMPACT OF KNOWLEDGE ON MEDICATION ADHERENCE AMONG TYPE 2 DIABETES PATIENTS

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OBJECTIVES: To evaluate the medication adherence and general diabetes knowledge among patients with type 2 diabetes and to assess the relationship of knowledge with medication adherence of patients. **METHODS:** A cross-sectional study design was conducted among convenience sample of 505 type 2 diabetic outpatients in the Diabetes Clinic of the Penang General Hospital, Penang, Malaysia from November 2009 to April 2010. Patients with diabetes type 2 were asked to complete